

Box 1. PubMed and EMBASE search terms**PubMed search terms (n = 188)**

("nivolumab"[Supplementary Concept] OR "Nivolumab"[tiab] OR "Opdivo"[tiab] OR "MDX-1106"[tiab] OR "ONO-4538"[tiab] OR "BMS-936558"[tiab] OR "NIVO"[tiab] OR "pembrolizumab"[Supplementary Concept] OR "pembrolizumab"[tiab] OR "lambrolizumab"[tiab] OR "keytruda"[tiab] OR "MK-3475"[tiab] OR "SCH 900475"[tiab] OR "avelumab"[Supplementary Concept] OR "Avelumab"[tiab] OR "MSB0010718C"[tiab] OR "MPDL3280A"[Supplementary Concept] OR "MPDL3280A"[tiab] OR "atezolizumab"[tiab] OR "Tecentriq"[tiab] OR "RG7446"[tiab] OR "RO5541267"[tiab] OR "Durvalumab"[tiab] OR "MEDI4736"[tiab] OR "MEDI-4736"[tiab] OR "checkpoint inhibitor*[tiab] OR "PD-1"[tiab] OR "PDL1"[tiab]) AND ("Melanoma"[Supplementary Concept] OR "Melanoma"[tiab]) AND (Clinical Trial, Phase III[ptyp] OR "phase 3 clinical trial"[tiab] OR "phase III clinical trial"[tiab] OR "phase 3 trial"[tiab] OR "phase III trial"[tiab] OR "phase 3 clinical study"[tiab] OR "phase III clinical study"[tiab] OR "phase 3 study"[tiab] OR "phase III study"[tiab] OR "phase 3 randomized trial"[tiab] OR "phase III randomized trial"[tiab] OR Clinical Trial, Phase II[ptyp] OR "phase 2 clinical trial"[tiab] OR "phase II clinical trial"[tiab] OR "phase 2 trial"[tiab] OR "phase II trial"[tiab] OR "phase 2 clinical study"[tiab] OR "phase II clinical study"[tiab] OR "phase 2 randomized trial"[tiab] OR "phase II randomized trial"[tiab] OR "phase 2 study"[tiab] OR "phase II study"[tiab] OR "phase 2/3 clinical trial"[tiab] OR "phase II/III clinical trial"[tiab] OR "phase 2/3 trial"[tiab] OR "phase II/III trial"[tiab] OR "phase 2/3 clinical study"[tiab] OR "phase II/ III clinical study"[tiab] OR "phase 2/3 study"[tiab] OR "phase II/III study"[tiab] OR "phase 2/3 randomized trial"[tiab] OR "phase II/III randomized trial"[tiab] OR Randomized Controlled Trial[ptyp] OR "randomized controlled trial"[tiab] OR "RCT"[tiab])

EMBASE search terms (n = 66)

('nivolumab':ab,ti OR 'pembrolizumab':ab,ti OR 'avelumab':ab,ti OR 'atezolizumab':ab,ti OR 'durvalumab':ab,ti OR 'checkpoint inhibitor':ab,ti OR 'pd-1':ab,ti OR 'pd11':ab,ti) AND ('phase 3 clinical trial':ab,ti OR 'phase iii clinical trial':ab,ti OR 'phase 3 trial':ab,ti OR 'phase iii trial':ab,ti OR 'phase 3 clinical study':ab,ti OR 'phase iii clinical study':ab,ti OR 'phase 3 study':ab,ti OR 'phase iii study':ab,ti OR 'phase 3 randomized trial':ab,ti OR 'phase iii randomized trial':ab,ti OR 'phase 2 clinical trial':ab,ti OR 'phase ii clinical trial':ab,ti OR 'phase 2 trial':ab,ti OR 'phase ii trial':ab,ti OR 'phase 2 clinical study':ab,ti OR 'phase ii clinical study':ab,ti OR 'phase 2 randomized trial':ab,ti OR 'phase ii randomized trial':ab,ti OR 'phase 2 study':ab,ti OR 'phase ii study':ab,ti OR 'randomized controlled trial':ab,ti OR 'rct':ab,ti) AND ('melanoma':ab,ti) AND 'human'/de AND ('article'/it OR 'article in press'/it)

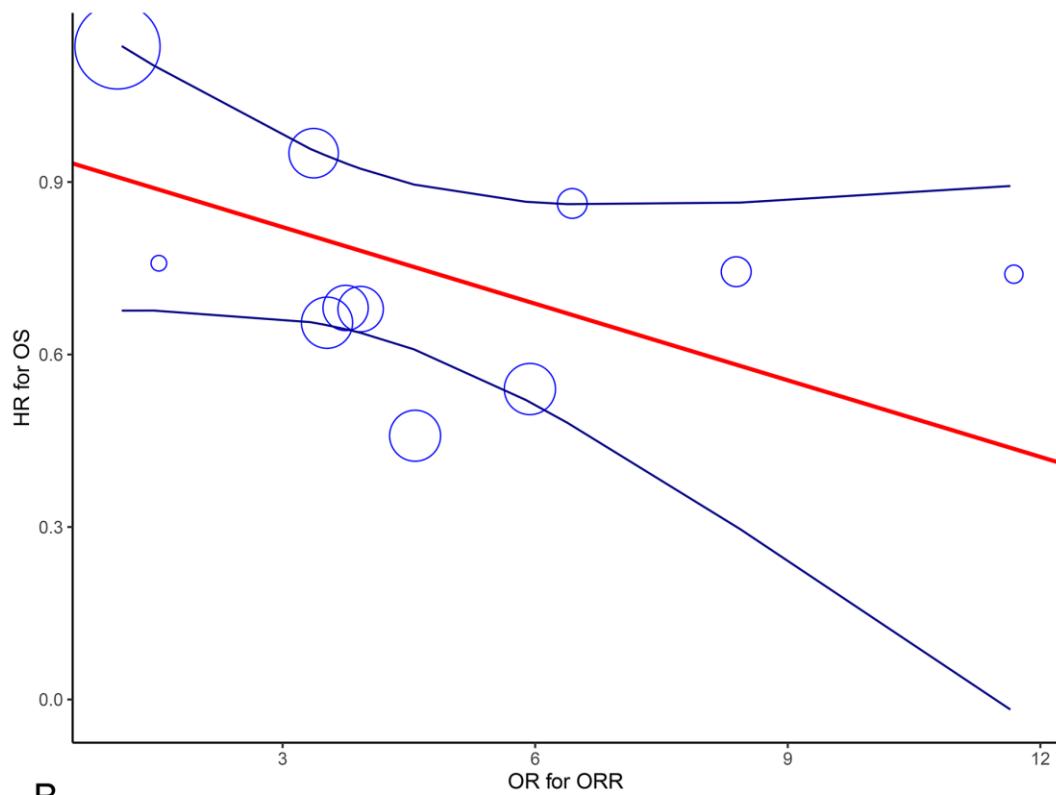
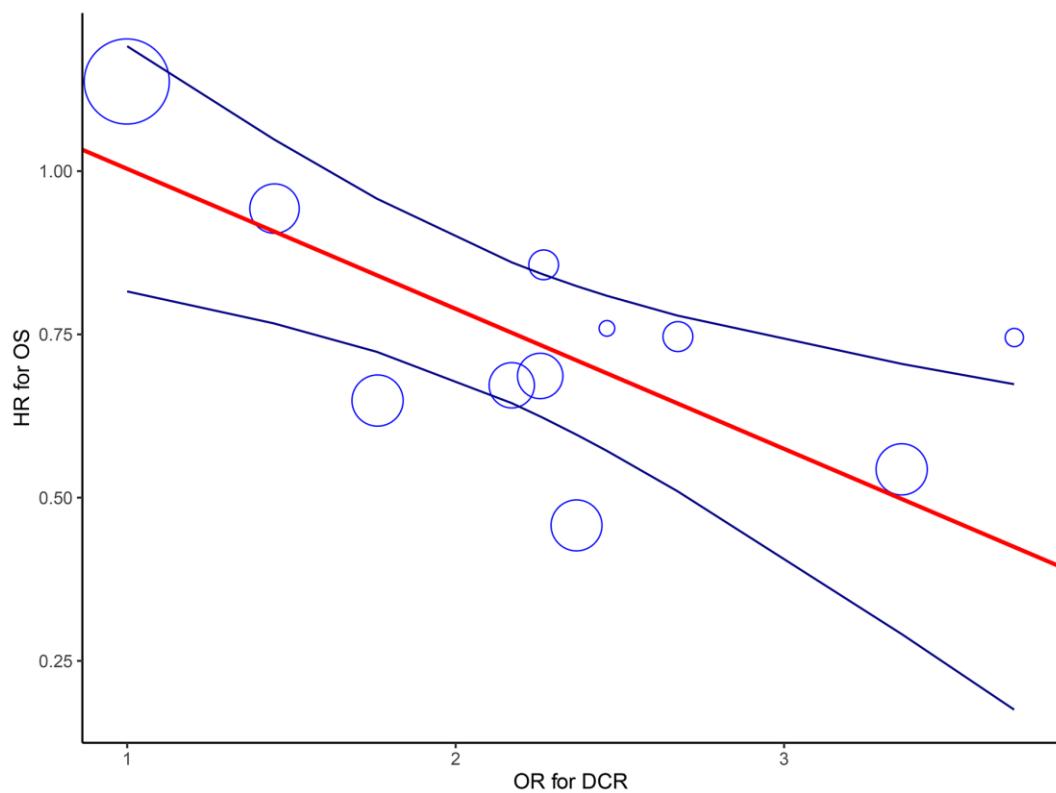
A**B**

Figure S1. Correlation between treatment effects on ORR (A), DCR (B) and OS. Each trial is represented by a circle, with the size of the circle being proportional to the sample size. The blue line represents the 95% prediction limit of the regression line (red line). DCR, disease control rate; ORR, objective response rate;

OS, overall survival; PFS, progression-free survival; HR, hazard ratio; OR, odds ratio

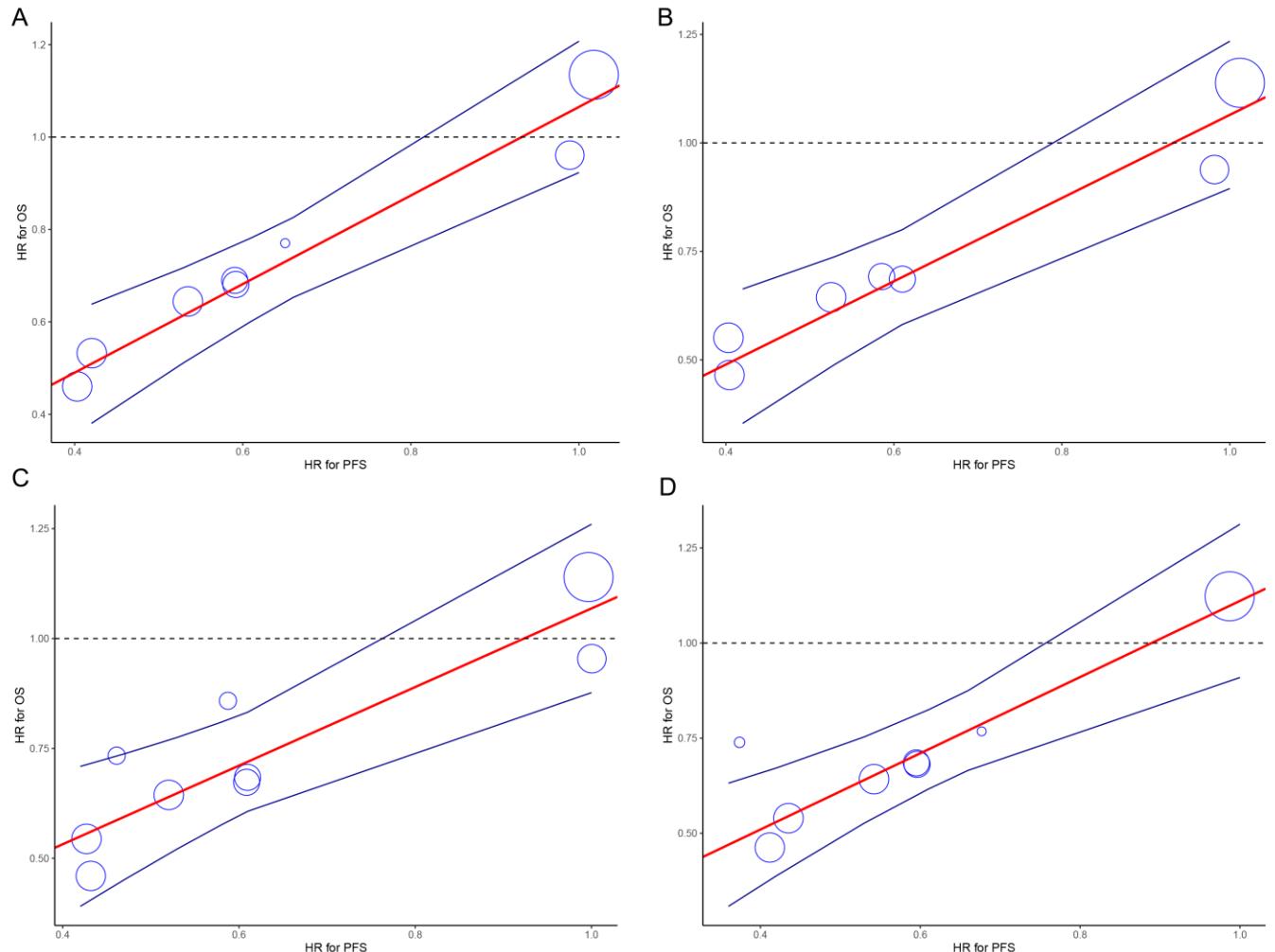


Figure S2. Sensitivity analysis of the correlation between PFS and OS (related to Table 3). Sensitivity analyses restricted the analyses to trials with crossover < 50% (A), phase 3 trials (B), large trials (comparisons with > 300 patients) (C), and trials with first-line therapy (D). Each trial is represented by a circle, with the size of the circle being proportional to the sample size. The blue line represents the 95% prediction limit of the regression line (red line). OS, overall survival; PFS, progression-free survival; HR, hazard ratio